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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/508,342

09/20/2004

Ichiro Okamoto

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McDermott Will & Emery  
600 13th Street N W  
Washington, DC 20005-3096

EXAMINER

LE, TUAN H

ART UNIT

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2622

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/508,342	<b>Applicant(s)</b> OKAMOTO ET AL.	
	<b>Examiner</b> TUAN H. LE	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-13 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4,6-13,15 and 18-21 is/are allowed.
- 6) ☒ Claim(s) 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claims 16 and 17 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Rao (U.S. Pat. 5,828,786 to Rao et al).**

Regarding **claim 16**, Rao discloses an imaging system comprising:

an imaging device (video camera) which picks up an image signal in an image format of 24 frames/second (Rao, Fig. 3 and column 1 lines 37-40, wherein video camera is used);

a temporary recording device (inherent part of video camera 101) which temporarily records the image signal picked up by the imaging device;

a reading device (input processor 102) which reads the image signal from the temporary recording device based upon an interlace system of 60 fields/second (Rao, Fig. 3 and column 41-48, wherein input processor 102 reads video data of 60 fields per second);

a pull-down control device (video stream analyzer 300) which is provided with a plurality of corresponding relationships between each frame of the image signal having the image format of 24 frames/second and each field of the interlace image signal having the image format of 60 fields/second (scene cuts, repeated fields, mixed-field frame), and based upon one corresponding relationship selected from the corresponding relationships, controls the reading operation of the reading device (Rao, Fig. 3 and column 4 lines 52-65, wherein video stream analyzer 300 drops repeated fields or replaces frames with scene cuts); and

a switching device (video stream analyzer 300) which switches the corresponding relationships to be selected by the pull-down control device (Rao, Fig. 3 and column 4 lines 52-65, wherein if repeated fields are detected, field dropping is performed or if a scene cut is detected, frame replacement is performed).

Regarding **claim 17**, Rao discloses an imaging system comprising:

an input device (video camera) which picks up an image signal in an image format of 24 frames/second (Rao, Fig. 3 and column 1 lines 37-40, wherein video camera is used);

a temporary recording device (inherent part of video camera 101) which temporarily records the image signal picked up by the imaging device;

a reading device (input processor 102) which reads the image signal from the temporary recording device based upon an interlace system of 60 fields/second (Rao, Fig. 3 and column 41-48, wherein input processor 102 reads video data of 60 fields per second);

a pull-down control device (video stream analyzer 300) which is provided with a plurality of corresponding relationships between each frame of the image signal having the image format of 24 frames/second and each field of the interlace image signal having the image format of 60 fields/second (scene cuts, repeated fields, mixed-field frame), and based upon one corresponding relationship selected from the corresponding relationships, controls the reading operation of the reading device (Rao, Fig. 3 and column 4 lines 52-65, wherein video stream analyzer 300 drops repeated fields or replaces frames with scene cuts); and

a switching device (video stream analyzer 300) which switches the corresponding relationships to be selected by the pull-down control device (Rao, Fig. 3 and column 4 lines 52-65, wherein if repeated fields are detected, field dropping is performed or if a scene cut is detected, frame replacement is performed).

***Allowable Subject Matter***

**Claims 1-4, 6-13, 15, and 18-21** are allowed.

Independent claims 1, 2, 6, 7, 13, 15, 18-21 involve a conversion process between a progressive image format of 24 frames/second and an interlace image format of 60 fields/second by using 2:3:3:2 pull-down system.

Dependent claims 3, 4, 8-12 are branches of claims 1 and 7.

The prior art of record neither anticipates nor renders obvious the 2:3:3:2 pull-down system. The closest prior art (U.S. Pat. 4,641,188) teaches that the 2:3:2:3 pull-down system causes only one frame out of five to be mixed. However, the prior art does not disclose how the 2:3:3:2 pull-down system is carried out.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUAN H. LE whose telephone number is (571)270-1130. The examiner can normally be reached on M-Th 7:30-5:00 F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David L. Ometz/  
Supervisory Patent Examiner, Art  
Unit 2622

/Tuan H Le/  
Examiner, Art Unit 2622